

Practice with Speed and Velocity

Example)

$$\begin{aligned} S &= \frac{d}{t} \\ &= \frac{48 \text{ m}}{3 \text{ s}} \\ &= 16 \text{ m/s} \end{aligned}$$

(2) (1)

$$d = 48 \text{ m}$$

$$t = 3 \text{ s}$$

$$S = ?$$

$$1) \quad S = \frac{d}{t}$$

$$t = \frac{d}{S}$$

$$= \frac{550 \text{ mi}}{55 \text{ mi/hr}}$$

$$= 10 \text{ hr}$$

(2) (1)

$$S = 55 \text{ mi/hr}$$

$$t = ?$$

$$d = 550 \text{ mi}$$

$$\begin{aligned}
 4) \quad \bar{v} &= \frac{\bar{d}}{t} & \bar{v} &= ? \\
 &= \frac{275 \text{ mi NW}}{6 \text{ hr}} & \bar{d} &= 275 \text{ mi NW} \\
 & & t &= 11 \text{ am} - 5 \text{ am} \\
 & & &= 6 \text{ hr} \\
 &= 45.83 \text{ mi/hr NW}
 \end{aligned}$$

$$\begin{aligned}
 6) \quad \bar{v} &= \frac{\bar{d}}{t} & \bar{v} &= 150 \text{ km/hr TYFH} \\
 & & \bar{d} &= ? \\
 \bar{d} &= \bar{v} t & t &= 2.5 \text{ hr} \\
 &= (150 \text{ km/hr TYFH}) (2.5 \text{ hr}) \\
 &= 375 \text{ km TYFH}
 \end{aligned}$$

Speed and Velocity Calculations

$$\begin{aligned} 1) \quad \bar{v} &= \frac{\bar{d}}{t} \\ &= \frac{12 \text{ m right}}{3 \text{ s}} \\ &= 4 \text{ m/s right} \end{aligned}$$

$$\begin{aligned} \bar{v} &= ? \\ \bar{d} &= 12 \text{ m right} \\ t &= 3 \text{ s} \end{aligned}$$

$$\begin{aligned} 4) \quad \bar{v} &= \frac{\bar{d}}{t} \\ t &= \frac{\bar{d}}{\bar{v}} \\ &= \frac{219 \text{ m up}}{10 \text{ m/s up}} \\ &= 21.9 \text{ s} \end{aligned}$$

$$\begin{aligned} \bar{v} &= 10 \text{ m/s up} \\ \bar{d} &= 219 \text{ m up} \\ t &= ? \end{aligned}$$

$$\begin{aligned} \text{6) } \bar{v} &= \frac{\bar{d}}{t} & \bar{v} &= 30 \text{ km/hr east} \\ \bar{d} &= \bar{v} t & t &= 2.5 \text{ hr} \\ & & \bar{d} &= ? \\ & & &= (30 \text{ km/hr east})(2.5 \text{ hr}) \\ & & &= 75 \text{ km east} \end{aligned}$$